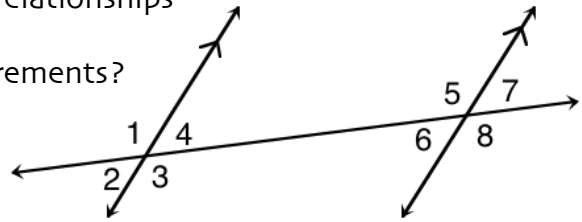


Section 3-2: Angles and Parallel Lines

By the end of this lesson, you should be able to answer:

- How do you use theorems to determine the relationships between specific pairs of angles?
- How do you use algebra to find angle measurements?

Use the figure at the right to work with the following postulates and theorems:
Corresponding Angles Postulate



Alternate Interior Angles Thm.

Consecutive Interior Angles Thm.

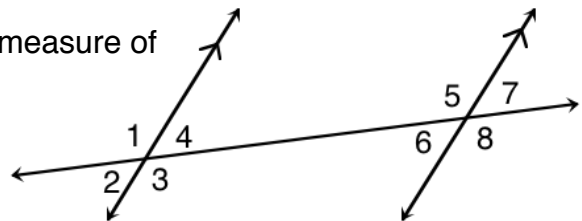
Alternate Exterior Angles Thm.

Example 1: In the figure, $m\angle 4 = 51^\circ$. Find the measure of each angle. Give a justification to your answer.

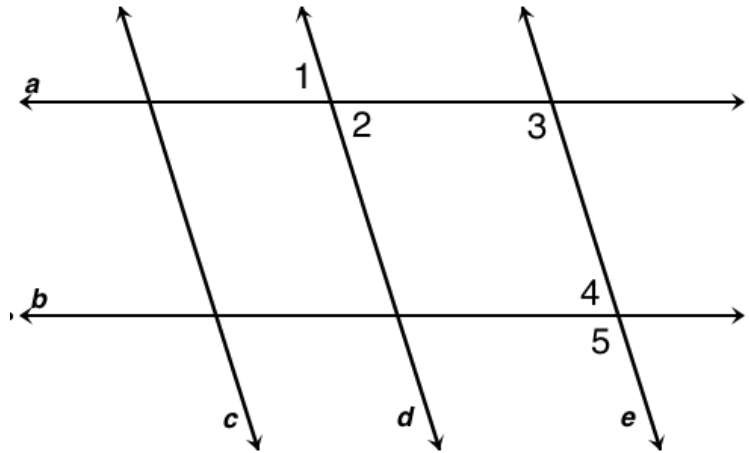
a. $m\angle 2$

b. $m\angle 3$

c. $m\angle 6$

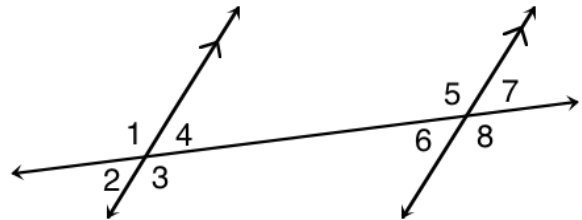


Example 2: Use the figure below, in which $a \parallel b$, $m\angle 2 = 125^\circ$, and $c \parallel d \parallel e$, to find the measure of each numbered angle. Provide a reason for the answer for each measure.



Example 3: Use the figure to find the indicated variable. Explain your reasoning.

a. If $m\angle 2 = 2x - 10$ and $m\angle 6 = x + 15$, find x .



b. If $m\angle 7 = 4(y - 25)$ and $m\angle 1 = 4y$, find y .

Problem Set:

"You can fool too many of the people too much of the time."
- James Thurber